

# EUROPEAN PATENT OFFICE

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TITLE : POLYESTER FIBER AND ITS PRODUCTION

ABSTRACT : PURPOSE: To obtain a polyester fiber having high water-absorptivity and antistaticity and exhibiting unique rayon-like feeling and dry feeling.

CONSTITUTION: This polyester fiber is composed of a polyester containing a specific organic sulfonic acid metal salt and a polyalkylene glycol having an average molecular weight of 5,000-50,000, has a number of continuous linear grooves oriented in the direction of fiber axis, having a width of 0.1-3 $\mu$ m and a length of  $\geq$ 5 $\mu$ m and keeping a space of  $\leq$ 5 $\mu$ m between the adjacent grooves and contains a number of irregular voids in the fiber in a state partly opened on the fiber surface and accounting for  $\geq$ 5% of the total cross-sectional area of the fiber. The fiber can be produced by adding a mixture of an organic sulfonic acid metal salt and a polyalkylene glycol to a polymer before the completion of the polycondensation reaction of the polyester, melt-spinning the obtained polyester, subjecting the obtained fiber to dry-heat treatment at a high temperature and finally thinning the product with an alkali.

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